Prairie Update

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# Forage Stand Assessment Determines Establishment Success

by Bob Springer, PAg – Saskatchewan Watershed Authority

At times the establishment of a new forage stand is less than ideal and an assessment is needed to find out if the stand is satisfactory or if it needs reseeding. When evaluating establishment, land managers need to consider a number of issues, including the length of time the seed has been in the ground, plant density, species seeded and field uniformity.

**Establishment Time Required**

- Forages generally emerge more slowly than field crops.
- Some species are particularly slow in establishing. Cicermilk vetch, tall wheatgrass and Russian and altai wildrye often take a year or longer to establish.
- Saskatchewan Crop Insurance Corporation (SCIC) and land conversion programs do not do a final establishment inspection until the year following seeding. A final decision on whether seeding is a success or a failure should not be made until the spring following seeding.

**Seedling Identification**

- Land managers need to be able to identify forage seedlings.
- Alfalfa can be easily identified when the first trifoliate leaf is formed.
- Grasses are difficult to identify before the two or three leaf stage, however, characteristics such as leaf pubescence in meadow bromegrass are useful identifying characteristics.
- The Saskatchewan Forage Council publication "Identification of Common Seeded Plants for Forage and Reclamation in Saskatchewan" provides useful information on identifying grasses.

**Seedling Density**

- Seedling density is a critical factor when assessing establishment success.
- Plant density needs to be great enough to provide optimal yields, reduce site erosion and prevent weed infestations, but must be low enough to prevent lowered yields due to excessive competition for resources among forage plants.
- Ideal plant density varies with growing conditions. In Saskatchewan, target plant densities vary from 20 to 40 per square foot, from Brown soil zone areas to irrigated fields.
- Forage stands can remain productive at considerably lower densities.
- Establishment insurance for forage seedlings is available at SCIC. When evaluating stands for establishment, SCIC considers a stand successfully established when it has one forage plant per square foot in 75% of the observations.
- Many forage agrologists feel that **three to five plants per square foot** are required for satisfactory yields. The type of forage species seeded will also impact acceptable seedling densities. In most cases, tap-rooted legumes and bunchgrasses have limited ability to increase stand density over time.
- Species with creeping rootstocks have the ability to fill in thin areas over time.
- The practice of trying to thicken up a thin stand of alfalfa by over-seeding additional seed is not recommended, as alfalfa roots secrete allelopathic substances into the soil that inhibit the establishment of alfalfa seedlings.
- Sparse stands and adequate available moisture increases the success of over-seeding, but generally, over-seeding into existing forage stands without eliminating competition first is unsuccessful.

Sometimes fields exhibit patchy emergence. This can be caused by establishment failure due to drought, flooding, excessive weed pressure, or grasshopper damage. Bare patches can be reseeded. If bare patches are too numerous, or are oriented in a way not conducive to reseeding, the entire field may require reseeding.

**Summary**

When determining whether forage stands have established successfully, forage seedlings need to be identified and their density and uniformity assessed. Just remember to allow for ample time after seeding for establishment to occur!

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# Over 200 Wetlands Restored in Watershed

by Aron Hershmiller, AWSA

**Constructing ditch plug**

Across Canada, over 49 million acres of wetlands have been lost to agriculture since European settlement. The prairies have lost an estimated 70% of their wetlands since the early 1800's, with approximately 85% of the total loss coming from agricultural drainage.

Wetlands reduce the effects of erosion and flooding, provide a source of water in drought conditions, recharge local aquifers and sequester carbon. They also filter pesticides, nutrients and pathogens, which improve water quality. Wetlands sustain more life than any other terrestrial ecosystem on the planet.

The Assiniboine Watershed Stewardship Association (AWSA) along with Ducks Unlimited Canada and the Saskatchewan Watershed Authority completed their 'Reverse Wetland Auction' restoration pilot project in Dec. 2009. The project involved a 'reverse auction' approach in which farmers placed bids on what they believed their previously drained wetlands were worth to restore. A budget of $240,000 was used for the payment and construction of the top 30 bids from seven farmers.

A total of 212 wetland 'ditch plugs' were constructed, which resulted in the restoration of an estimated 211.5 acres of wetlands in the Assiniboine River Watershed.

## Indian Breadroot (Psoralea esculenta)

is an attractive member of the legume family that ranges from 15 to 30 cm in height. Creamy white flowers with a tinge of blue bloom from fuzzy buds in June and July. Leaflets radiate in a circular pattern from where they attach to the stem. It gets its name from its large tuberous root, and was perhaps the most important food plant for aboriginal peoples on the prairies. The tuber was used fresh, cooked, or dried and pounded into a flour. This plant is found growing in sandy banks, dry prairie, and sheltered sites.

*Drawing from Budd's Flora of the Canadian Prairie Provinces, Agriculture and Agri-Food Canada.*

*Reproduced with permission of the Minister of Public Works and Government Services Canada, 2001*

# Making the Most of What You've Got

To Paul Abrahamsom, there isn't much money in feeding grain to cattle, especially given market prices these days. He prefers to raise his cows on a forage-only diet. But when he bought land near Pelly to start up his operation back in 1996, he knew he would have his work cut out for him if he was going to grow enough grass to feed his herd.

"It was all cropland, and most of it was completely mined out. Whatever you put in that year [for inputs], that's what you got back. There was nothing extra," says Abrahamson.

"We tried seeding grass and putting fertilizer on, and you'd get a good kick on your grass one year and then that was all. Basically, with the fertilizer you were getting your money back, but you weren't getting anything extra and you weren't improving the land a lot."

Improving his forage became a major priority. So Abrahamson began looking at different management options that would help him do that.

One of those options was bale grazing his cattle through most of the winter, rather than feeding them in the corrals. Bale grazing is simply feeding hay and straw bales on pasture, hay or cropland. It's a practice that helps increase soil fertility while at the same time reducing costs.

Abrahamson chooses to place his bales out in his pastures, and for good reason. When the cows are done feeding, no matter how well they clean up the bale, there is always some "waste" hay left over. This leftover material helps replenish nutrients in the soil and can help increase plant density.

At the same time, while the cattle are grazing they are naturally spreading their manure right where it is needed. "We don't have the cattle in the corrals all winter, so we're saving the cost of manure removal and spreading," says Abrahamson.

In past years, Abrahamson has limited the number of bales he puts out at one time to about enough to feed his herd of 400 cow-calf pairs for three days. He would have liked to put more bales out to save on fuel and equipment costs, but he was deterred by the abundance of elk in the area.

"I've been a little leery of hauling all those bales out there in the fall and letting the elk get into them. It can be pretty devastating," says Abrahamson.

However, this year Abrahamson purchased a pair of Great Pyrenees dogs which he plans to put out in the pasture with the cattle next fall. According to a number of Manitoba producers who Abrahamson spoke to at the many agricultural extension events he attends, elk will avoid the cattle and their feed when these large stock dogs are nearby.

After just a few winters, Abrahamson has seen very positive changes in his grass due to bale grazing.

"It's been a huge improvement. And it's ongoing. It's not just like a one-year kick. Those places where you bale grazed, three or four years afterward they're still producing good grass," he says.

Each winter Abrahamson chooses different parcels on which to bale graze the herd, in order to spread the benefits around. Previously, he stuck to pastures that had a water source within walking distance. But his past year, he tried part of his herd on a pasture without water.

"I tried 135 cows out eating snow, and they came home in just as good of condition. There's no difference," he says.

The cattle return to the corrals in late February for calving. But as soon the calves are able, they're back out to pasture – usually around mid-March.

For his spring to fall grazing, Abrahamson chose to go with a rotational grazing system, and for the same reason as he chose to utilize bale grazing in the winter – because it would help him improve his forage.

Rotational grazing simply involves rotating livestock into different paddocks of fenced pasture throughout the grazing season. The cattle spend a varying length of time in each paddock, depending on its specific carrying capacity. This type of system is useful in protecting riparian areas and wildlife habitat during sensitive times of year, lengthening the grazing season, and providing greater animal weight gains and improved forage productivity.

Currently, Abrahamson's paddocks are about a quarter-section each. This spring, he plans to cross-fence these parcels down to about 80 acres a piece, and begin rotating the cattle to a new paddock about every five-days.

In past years, Abrahamson has split the herd into three groups for the grazing season: one group of yearling heifers, one group of about 200 keepers, and one other group of about 200 keepers that he sends to a community pasture. But with good management, Abrahamson hopes that someday soon his forage will have improved enough that he can keep all his animals on his own land.

"On the land base that we have, hopefully with the bale grazing and more intensive rotational grazing we can get that land improved and even without expanding we can start taking cows out of the community pasture,"says Abrahamson.

"We're just working to maximize what we have before we expand more."

The driving goal behind Abrahamson's management strategies is simple – to use the resources he has in a way that both improves his forage and minimizes his costs in a volatile market.

"We can't control cattle prices, but we can sure control how we're improving the land and the end result,"says Abrahamson.

"We just concentrate our efforts on what we can control here, and the rest will work out."

# Hello Voluntary Stewards!

Thank you for taking the time to read this edition of the Prairie Update newsletter. As always, we hope you enjoy the articles included in this newsletter, and we welcome any comments you have.

As I mentioned in my last letter, we hope to contact a number of you over the summer months. For some, it has been quite a few years since we've been in touch and we'd like to follow up on some of the management practices that we've provided assistance with in the past.

Also, please remember that you can find past issues of this newsletter on our web site at www.swa.ca.

*Jennifer Lohmeyer*

# Visit Us Online!

You can find more information on the Saskatchewan Watershed Authority's Prairie Stewardship Program in back issues of this newsletter.

These issues, as well as interactive maps featuring other stewardship project demonstration sites, can be viewed on our website, www.swa.ca.

## Coming Events

For more information on stewardship events, please contact the Saskatchewan Watershed Authority office nearest you:

| | | |
|---|---|---|
| ***North Battleford*** | Jeremy Brown | 446-7460 |
| ***Regina*** | Etienne Soulodre | 787-0661 |
| ***Swift Current*** | Krista Connick | 778-8280 |
| ***Weyburn*** | Stacey Gulka | 848-2354 |
| ***Yorkton*** | Jason Puckett | 786-5845 |

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